

SHOE WITH SPINNER ELEMENT

BACKGROUND OF THE INVENTION

This invention relates to footwear.

Footwear has been a consumer area with a cauldron of inventive activity seeking to make
5 shoes of ever increasing interest to consumer subpopulations. In particular, athletic shoes have
seen substantial development of basic materials and shoe parts to improve shoe comfort and
performance. In addition, shoe manufacturers continue to introduce features generally ancillary
to effective shoe performance. Frequently, such ancillary features are entertainment devices that
may also have a safety benefit such as flashing lights on shoes.

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OBJECTS OF THE INVENTION

An object of the present invention is to provide an improved article of footwear.

A more specific object of the present invention is to provide an article of footwear with
an ancillary feature having an entertainment value.

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Another specific object of the present invention is to provide such an article of footwear
that may also have a safety enhancement function.

These and other objects of the present invention will be apparent to one skilled in the art
from the drawings and descriptions herein. Although every feature of the invention is attained in
at least one embodiment of the invention, there is not necessarily any one embodiment that
achieves all of the objects of the invention.

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SUMMARY OF THE INVENTION

A shoe in accordance with the present invention comprises an upper, a midsole coupled
to the upper, an outsole fastened to the midsole, and a spinner element rotatably mounted to at
least one of the upper and the midsole.

Preferably, the spinner element is mounted to the upper or midsole for free rotation, in the manner of a spinning wheel or a spinner of a conventional board game. The spinner element generally defines a plane of rotation substantially parallel to the shoe part, i.e., the upper or the midsole, at a point of attachment of the spinner element to the shoe.

5 In one embodiment of the present invention, the spinner element includes a hub and a plurality of arms or spokes radiating from the hub. In that case, the spinner element is rotatably mounted to the one of the upper and the midsole via the hub. A pin projecting from the upper or midsole may traverse a hole in the hub. Alternatively, a pin rigid with the spinner element may traverse a recess or aperture provided in the upper or midsole of the shoe.

10 The spinner element may have a cruciform shape, with four arms or spokes radiating from the hub in a plane. The arms or spokes may each have a flattened or planar configuration.

In a particular embodiment of the present invention, the spinner element is mounted to the midsole at a point below an ankle opening of the upper. In another particular embodiment, the spinner element is mounted to the upper along a vertically oriented portion or panel thereof,

15 for instance, over the instep portion of the sole.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a top, front, and right side perspective view of an athletic right shoe in accordance with the present invention.

FIG. 2 is a top plan front elevational view of the shoe of Fig. 1.

20 FIG. 3 is a front elevational view of the shoe of Figs. 1 and 2.

FIG. 4 is a rear elevational view of the shoe of Figs. 1-3.

FIG. 5 is a left side elevational view of a left shoe corresponding to the right shoe of Figs. 1-4.

FIG. 6 is a right side elevational view of the left shoe of Fig. 5.

Corresponding parts of the right shoe of Figs. 1-4 and the left shoe of Figs. 5 and 6 are designated herein with like reference numbers, the two shoes being mirror images of one another.

5 FIG. 7 is a top, front, and right side perspective view of another athletic shoe in accordance with the present invention.

FIG. 8 is a top plan front elevational view of the shoe of Fig. 7.

FIG. 9 is a rear elevational view of the shoe of Figs. 7 and 8.

FIG. 10 is a front elevational view of the shoe of Figs. 7-9.

FIG. 11 is a left side elevational view of the shoe of Figs. 7-10.

10 FIG. 12 is a right side elevational view of the shoe of Figs. 7-11.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Figs. 1-6 depict a shoe having an upper 20, a midsole 22, and an outsole or shoe bottom 24. Midsole 22 is coextensive with outsole or shoe bottom 24 in a horizontal plane and is connected thereto via a layer of adhesive (not shown). Upper 20 is fastened to midsole 22
15 around the peripheral or edge thereof by stitching and/or adhesive.

Midsole 20 is formed at a rear end, over a heel 25, with a vertical lobe or ear 26 that extends towards an ankle opening 28 of the shoe. A spinner element 30 in the form of a cross (cruciform) or X is rotatably mounted to lobe 26 via a pin 32. Spinner element 30 has four radially extending arms or spokes 34 each integral on an inner end with a hub 36 traversed by pin
20 32. Arms or spokes 34 each have a pair of facets 38 and 40 inclined at a shallow angle to one another and contiguous with one another along a radial edge 42. Facets 38 and 40 are wide at their outer ends and taper down towards hub 36. In addition, facets 38 and 40 have scalloped edges 44 at their outer ends.

An annular bead 46 concentric with pin 32 is integrally formed on midsole lobe 26 and
25 has a radius slightly greater than the common length of arms or spokes 34. Bead 46 may itself

comprise an annular inner facet 48 and an annular outer facet 50 inclined at an angle relative to one another and contiguous along a circular edge 52.

Spinner element 30 rotates freely on pin 32, in a plane substantially parallel and proximate to midsole lobe 26. Spinner element 30 may be made to rotate by natural movement of the shoe during walking or running or by a torque applied by a finger or other extraneous object.

Spinner element 30 may be provided with a reflective coating such as fluorescent paint or sparkles. A reflective coating enhances the visibility of the shoe and the wearer.

Figs. 7-12 depict another shoe having an upper 120, a midsole 122, and an outsole or shoe bottom 124. Midsole 122 is coextensive with outsole or shoe bottom 124 in a horizontal plane and is connected thereto via a layer of adhesive (not shown). Upper 120 is fastened to midsole 122 around the peripheral or edge thereof by stitching and/or adhesive.

Upper 120 is provided in a generally vertical sidewall (not separately labeled), over an instep region 126, with a spinner element 130 in the form of a cross or X rotatably mounted to upper 120 via a pin 132. Spinner element 130 has four radially extending arms or spokes 134 each integral on an inner end with a hub 136 traversed by pin 132. Arms or spokes 134 may have a faceted structure as described above with reference to Figs. 1-6. Alternatively, as shown particularly in Figs. 7 and 12, arms or spokes 134 may be planar, wider at their outer ends 138 and tapering down towards hub 136.

An annular bead 146 concentric with pin 132 is integrally formed on upper 120. Bead 146 may be an integral part of a circular polymeric patch 140 adhesively bonded and/or sewn to upper 120. Bead 146 has a radius slightly greater than the common length of arms or spokes 134. Bead 146 may itself comprise an annular inner facet 148 and an annular outer facet 150 inclined at an angle relative to one another and contiguous along a circular edge 152.

Spinner element 130 rotates freely on pin 132, in a plane substantially parallel and proximate to upper 120 at pin 132, i.e., the point of attachment of the spinner element to the upper. Spinner element 130 may be made to rotate by natural movement of the shoe during walking or running or by a torque applied by a finger or other extraneous object.

5 Spinner element 130 may be provided with a reflective coating such as fluorescent paint or sparkles. A reflective coating enhances the visibility of the shoe and the wearer.

Although the invention has been described in terms of particular embodiments and applications, one of ordinary skill in the art, in light of this teaching, can generate additional embodiments and modifications without departing from the spirit of or exceeding the scope of
10 the claimed invention. For instance, a spinner element for a shoe may be designed to emit a sound such as a whistling, buzzing, or humming sound.

The spinner may be provided with an active rotation mechanism such as an electric motor and a circuit for energizing the motor in response to one or more kinds of triggering events. The triggering event may be a foot motion or pressure on a sole of the shoe. In that case, a motion
15 sensor or a pressure sensor is provided for automatically detecting the triggering event.

The spinner element may take a shape other than a cross shape. Possible alternatives include star shapes, flower shapes, faces, animal forms, sports equipment representations (baseball gloves and/or bats, hockey sticks, etc.), space ships or airplanes, pistols, etc.

Accordingly, it is to be understood that the drawings and descriptions herein are proffered
20 by way of example to facilitate comprehension of the invention and should not be construed to limit the scope thereof.